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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,011	06/26/2006	Heiko Hessenkemper	117040.00089	6761

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EXAMINER	
HOFFMANN, JOHN M	

ART UNIT	PAPER NUMBER
1791	

NOTIFICATION DATE	DELIVERY MODE
09/25/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/553,011	HESSENKEMPER ET AL.	
	Examiner	Art Unit	
	John Hoffmann	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,6-10 and 14-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,6-10 and 14-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 6-10 and 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geertman 5213599 in view of Doremus ("Glass Science", page 102)

See col. 2, lines 3-4 and line 40 of Geertman. Geertman does not disclose the composition of the glass, however at col. 2, lines 3-5, Geertman discloses the inclusion of alkali and/or alkaline earth ions in the tube glass. As per Doremus, sodium and aluminum are commonly found ingredients in "Important Commercial Silicate Glasses". Thus one of ordinary skill, when reading the Geertman reference would immediately envision the use of sodium aluminosilicate glass. Thus aluminosilicates were formed.

Examiner notes neither the term "alumosilicates" nor how they were created is described in the present application. As far as Examiner can tell from the Internet, some consider "alumosilicate" to be the AlSiO4 anion, others consider it to be a misspelling of "aluminosilicate". Examiner finds that the broadest reasonable interpretation of the term "sodium alumosilicate", encompasses any glass having silica, aluminum and sodium.

As to claim 6: See col. 4, line 5. It would have been obvious to have the contacting time be more than a second and less than an hour, depending upon how much tubing is needed. For example if only 1000 meters were needed, it would have been obvious to run the process for only 200 seconds.

Claim 7: as chloride, it would have been obvious to use the amount necessary to get the desired effect. Finding the optimal concentration is an obvious matter of routine experimentation. It is well understood that concentration of reactant is a near-universal result-effective variable. As to the sample temperatures: the claim does not explicitly

require either, thus it is deemed that the broadest reasonable interpretation is : if there is a lower sample temperature, then it is limited.... But since Geertman does not disclose any sampling, Geertman has no sample temperatures.

Claim 8, it is clear that the compound has the temperature at least at one location.

Claim 9 is clearly met.

Claim 10: Geertman's heat treatment is disclosed at col. 2, lines 29-30 and 61-62.

Claims 14-16 are met for the reasons given above.

Claim 17: it is deemed that a tube is a container. Claims 18-23 are met in as much as applicant's invention meets them.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2, 6-10 and 14-2318- 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is nothing the specification as filed that reasonably suggests that the inventors had possession of the claimed subject matter of claims 18-23. Whereas page 2, lines 4-7 indicate that the alumosilicates have a resistance, there is no indication that it is "within said glass surface area". The plain reading is that the "thermally stable surface layers" have a resistance at the surface area, and the alumosilicates (i.e. the glass beneath) has as resistance in its location (i.e. beneath the surface). One of ordinary skill It is clear from [0012] and figure 3 that sodium alumosilicate was the glass.

There is no support for the sodium being bound “to” the modified structure. The last line of [0003] clearly states that it is bound “in” the structure. That is, it is an integral part of the structure.

There is no support for the limitation that the “glass surface area has an aluminum modified structure”. The only mention of ‘structure’ is at [0003], and there is no reasonable indication as to what that structure is. It isn‘t reasonably the “layers” because they are not described as a single structure, nor are the “alumosilicates” reasonably a single structure.

There is no support for the new limitation that the compound has the contacting volume of claims 2, 10 and 17.

There is no support for the claim 6 limitation of bringing the glass into contact with AlCl compound in combination with claim 2 step of the opposite (contacting the compound to the glass. The same for claim 14.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 6-10 and 14-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 10: The term “contacting volume” is indefinite as to what it is. See also the prior Office action.

Claim 6, there is confusing antecedent basis for the "compound(s)" it is unclear if they are suppose to be the same as that of claim 2. It is also unclear if the "s" is lined through (this problem exists throughout the claims). It is noted that for deletion single characters, double brackets should be used.

Claim 7: IT is unclear what the temperatures are; they are not explained in the specification, nor are they art-recognized terms.

There is confusing antecedent basis for the “surface” for the dependent claims. For example, the preamble of claim 2 refers to making a modified glass surface, but line 3 refers to a starting glass surface. It is unclear which of the surfaces the dependent claims refer to.

Claim 8: there is no antecedent basis for “the temperature”. It is unclear whether a potential competitor could avoid infringement by having more than one temperature.

Claim 15: there is no antecedent basis for “the application”.

Claims 18, 20 and 21: there is confusing antecedent basis for the alumosilicates – it is unclear if they are directed to the alumosilicates of the independent claims. The term “thermally induced reverse sodium diffusion” in indefinite as to its meaning. Examiner could find nothing in the prior art suggesting temperature can induce any diffusion in glass, nor any suggestion of what reverse diffusion would be. It is noted that diffusion is generally not a reversible process. That is in glasses sodium ions generally simply diffuse from an area of high concentration to an area of lower concentration. Higher temperatures simply increase their mobility but they don't cause/induce anything. One would not be able to reasonably determine how applicant's special diffusion is any different from typical sodium diffusion.

Claims 19, 22 and 23: there is no antecedent basis for "said aluminum-modified structure". Thus making it unclear as to whether it is required.

DETAILED ACTION

Response to Arguments

Applicant's arguments w have been considered but are moot in view of the new ground(s) of rejection.

It is argued that that Examiner ignored an important feature of claim 8. As pointed out on page 7, the claim 8 is clearly met. One of ordinary skill in the art would immediately understand that Lanes temperatures in Example 2 are within the claimed range of claim 8. 225 C is clearly above the lower limit of 175 and less than the 600 C limitation. 225 C is only 500 C above absolute zero, thus it cannot be more than 600 C above any transformation temperature.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hazdra, Rifqi, Weyl, and Postupack, are cited as being cumulative to Geertman.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Primary Examiner
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